

What is claimed is:

1. An surgical device for securing tissue comprising:  
a first member including a first compression element;  
a second member including a second compression element, the second member being in movable relation with the first member from a first position to a second position, wherein the first compression element and the second compression element are configured to receive a retainer therebetween; and  
an energy source operably connected to the first compression element.
2. The surgical device according to claim 1, further including a bias member biasing the first member and second member into the first position.
3. The surgical device according to claim 2, wherein the bias member imparts a compressive force of between about 1 lb. and 20 lbs. on the retainer.
4. The surgical device according to claim 1, wherein the first compression element is an acoustic horn.
5. The surgical device according to claim 4, wherein the energy source provides ultrasonic energy.
6. The surgical device according to claim 5, wherein the ultrasonic energy is provided through a side portion of the acoustic horn.
7. The surgical device according to claim 5, wherein the ultrasonic energy is provided through an end portion of the acoustic horn.

8. The surgical device according to claim 1, wherein the energy source provides energy selected from the group consisting of radio frequency (RF) energy, laser energy, microwave energy, ultrasound energy, and contact heating energy.

9. The surgical device according to claim 8, wherein the energy source provides energy through a side portion of the first compression element.

10. The surgical device according to claim 8, wherein the energy source provides energy through an end portion of the first compression element.

11. The surgical device according to claim 1, wherein the first member and second members are pivotally connected forming a jaw adapted to compress the retainer interposed between the first and second compression elements.

12. The surgical device according to claim 11, further including a bias member, biasing the first and second members into the first position.

13. The surgical device according to claim 12, wherein the bias member imparts a compressive force of between about 1 lb. and 20 lbs. on the retainer interposed between the first and second compression elements.

14. The surgical device according to claim 1, wherein the second member is movable along a linear path relative to the first member.

15. The surgical device according to claim 14, wherein the second member is a tubular member including a proximal end and a distal end, the distal end having a gapped portion with the second compression element being integrated into the gapped portion.

16. The surgical device according to claim 15, wherein the first member is positioned through the tubular member, such that the first compression element is in opposing relation to the second compression element.

17. The surgical device according to claim 16, wherein the tubular member is slidable over the first member.

18. The surgical device according to claim 17, further comprising an actuation member operably connected to the proximal end of the tubular member, wherein the actuation member operates to move the tubular member from the first position to the second position.

19. The surgical device according to claim 18, wherein the actuation member includes a bias member biasing the tubular member into the first position.

20. The surgical device according to claim 19, wherein the bias member imparts a compressive force of between about 1 lb. and 20 lbs. on the retainer interposed between the first and second compression elements.

21. The surgical device according to claim 15, further comprising an elongated insulation sleeve slidably positionable over the tubular member.

22. The surgical device according to claim 21, wherein the elongated insulation sleeve is slidable from a first sleeve position to a second sleeve position.

23. The surgical device according to claim 22, wherein the elongated insulation sleeve covers the tubular member gapped portion in the first sleeve position.

24. The surgical device according to claim 21, the elongated sleeve further comprises a collar member configured to receive an end portion of a suture.

25. The surgical device according to claim 21, further including a bias member, biasing the elongated sleeve into the first sleeve position.

26. A surgical device for securing tissue comprising:  
a first member including a first compression element;  
a second member including a second compression element, the first and second members being pivotally connected forming a jaw adapted to compress a retainer interposed therebetween and  
an energy source operably connected to the first compression element.

27. The surgical device according to claim 26, wherein the first and second members are movable from a first position to a second position.

28. The surgical device according to claim 27, further including a bias member biasing the first and second members into the first position.

29. The surgical device according to claim 28, wherein the bias member imparts a compressive force of between about 1 lb. and 20 lbs. on the retainer interposed between the first and second compression elements.

30. The surgical device according to claim 26, wherein the first compression element is an acoustic horn.

31. The surgical device according to claim 30, wherein the energy source provides ultrasonic energy.

32. The surgical device according to claim 31, wherein the ultrasonic energy is provided through a side portion of the acoustic horn.

33. The surgical device according to claim 26, wherein the energy source provides energy selected from the group consisting of radio frequency (RF) energy, laser energy, microwave energy, ultrasound energy, and contact heating energy.

34. A surgical device for securing tissue comprising:  
a first member including a first compression element;  
a second member including a second compression element, the first and second members being pivotally connected forming a jaw adapted to compress a retainer interposed therebetween, the first and second members being movable from a first position to a second position;  
a bias member operably connected to the first and second members, the biasing member biasing the first and second members into the first position imparting a compressive force of between about 1 lb. and 20 lbs. on the retainer interposed between the first and second compression elements; and  
an ultrasonic energy source operably connected to the first compression element.

35. A surgical device for securing tissue comprising:  
a first member including a first compression element;  
a tubular member including a gapped portion configured to receive a retainer therein, the gapped portion including an integrated second compression element, wherein the tubular member is slidably over the first member, such that the first compression element is in opposing relation to the second compression element;  
an energy source operably connected to the first compression element.

36. The surgical device according to claim 35, wherein the retainer is interposed between the first and second compression elements.

37. The surgical device according to claim 36, further comprising an actuation member operably connected to the tubular member, wherein the actuation member operates to move the tubular member from the first position to the second position.

38. The surgical device according to claim 37, further including a bias member biasing the tubular member into the first position.

39. The surgical device according to claim 38, wherein the bias member imparts a compressive force of between about 1 lb. and 20 lbs. on the retainer interposed between the first and the second compression elements.

40. The surgical device according to claim 34, further comprising an elongated insulation sleeve slidably positionable over the tubular member.

41. The surgical device according to claim 40, wherein the elongated insulation sleeve is slidable from a first sleeve position to a second sleeve position.

42. The surgical device according to claim 41, wherein the elongated insulation sleeve covers the tubular member slotted portion in the first sleeve position.

43. The surgical device according to claim 41, further including a bias member, biasing the elongated insulation sleeve into the first sleeve position.

44. The surgical device according to claim 41, the elongated sleeve further comprises a collar member configured to receive an end portion of a suture.

45. The surgical device according to claim 34, wherein the first compression element is an acoustic horn.

46. The surgical device according to claim 45, wherein the energy source provides ultrasonic energy.

47. The surgical device according to claim 34, wherein the energy source provides energy selected from the group consisting of radio frequency (RF) energy, laser energy, microwave energy, ultrasound energy, and contact heating energy.

48. A surgical device for securing tissue comprising:  
a first member including a first compression element;  
a tubular member including a gapped portion configured to receive a retainer therein, the gapped portion including an integrated second compression element, wherein the tubular member is slidably over the first member, such that the first compression element is in opposing relation to the second compression element;  
a bias member operably connected to the tubular member, the biasing member biasing the tubular member into a first position and imparting a compressive force of between about 1 lb. and 20 lbs. on a retainer interposed between the first compression element and the second compression element;  
an elongated insulation sleeve slidably positionable over the tubular member, wherein the elongated insulation sleeve is slidable from a first sleeve position, covering the gapped portion of the tubular member, to a second sleeve position, uncovering the slotted portion of the tubular member; and  
an ultrasonic energy source operably connected to the first compression element.

49. A method of securing a suture relative to body tissue comprising:  
providing a retainer configured for receiving the suture;  
positioning the suture relative to the body tissue, with at least one end portion of the suture extending from the body tissue;  
positioning the at least one end portion of the suture in proximal relation with the retainer;

providing a medical device for securing the retainer to the suture;  
loading the suture and the retainer in the medical device;  
compressing the suture and the retainer in the medical device with a compressive force between about 1 lb. and 20 lbs.; and  
applying energy to the retainer to plastically deform the retainer.

50. The method of securing a suture relative to body tissue according to claim 49, wherein the retainer is loaded into the medical device extra-corporally.

51. The method of securing a suture relative to body tissue according to claim 49, wherein the retainer is loaded into the medical device intra-corporally.